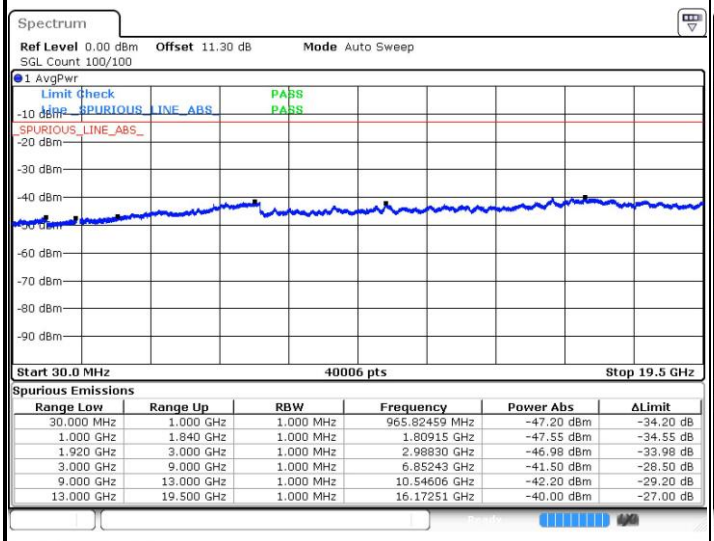
LTE Band 2 / 15MHz

Highest Channel / QPSK

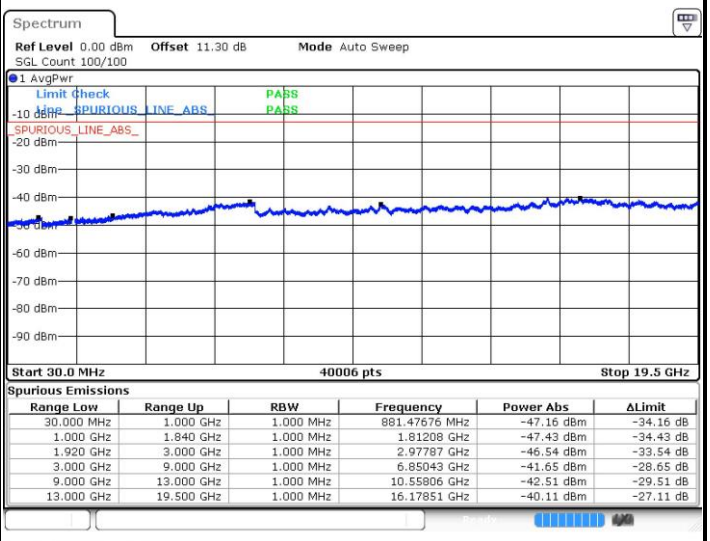


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	965.82459 MHz	-47.20 dBm	-34.20 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.80915 GHz	-47.55 dBm	-34.55 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.98830 GHz	-46.98 dBm	-33.98 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.85243 GHz	-41.50 dBm	-28.50 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.54606 GHz	-42.20 dBm	-29.20 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.17251 GHz	-40.00 dBm	-27.00 dB

Date: 30.MAR.2018 10:19:55

Highest Channel / 16QAM



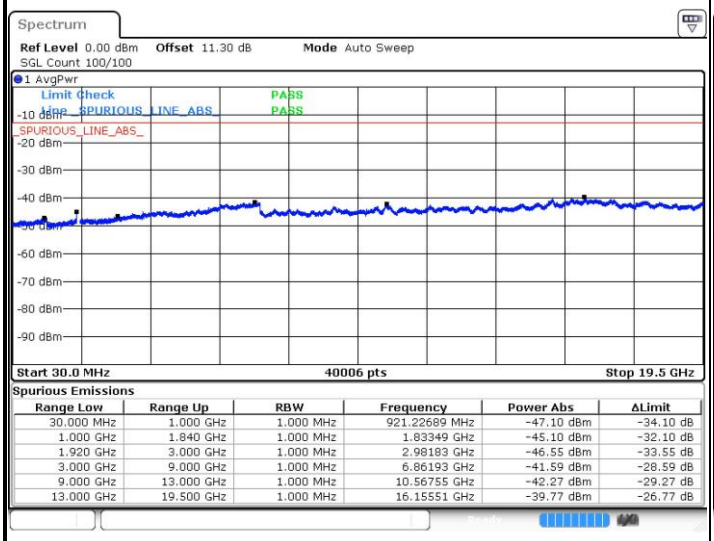
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	881.47676 MHz	-47.16 dBm	-34.16 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.81208 GHz	-47.43 dBm	-34.43 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.97787 GHz	-46.54 dBm	-33.54 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.85043 GHz	-41.65 dBm	-28.65 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.55806 GHz	-42.51 dBm	-29.51 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.17851 GHz	-40.11 dBm	-27.11 dB

Date: 30.MAR.2018 10:21:25

LTE Band 2 / 20MHz

Lowest Channel / QPSK

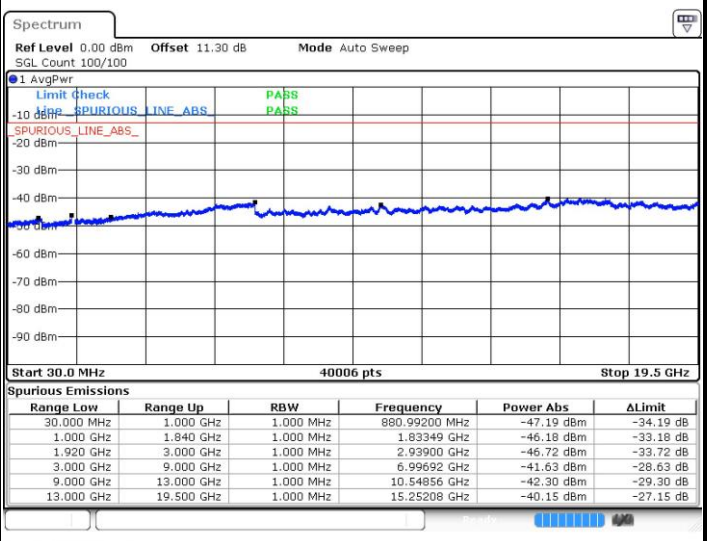


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	921.22689 MHz	-47.10 dBm	-34.10 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83349 GHz	-45.10 dBm	-32.10 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.98183 GHz	-46.55 dBm	-33.55 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.86193 GHz	-41.59 dBm	-28.59 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.56755 GHz	-42.27 dBm	-29.27 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.15551 GHz	-39.77 dBm	-26.77 dB

Date: 30.MAR.2018 10:30:16

Lowest Channel / 16QAM



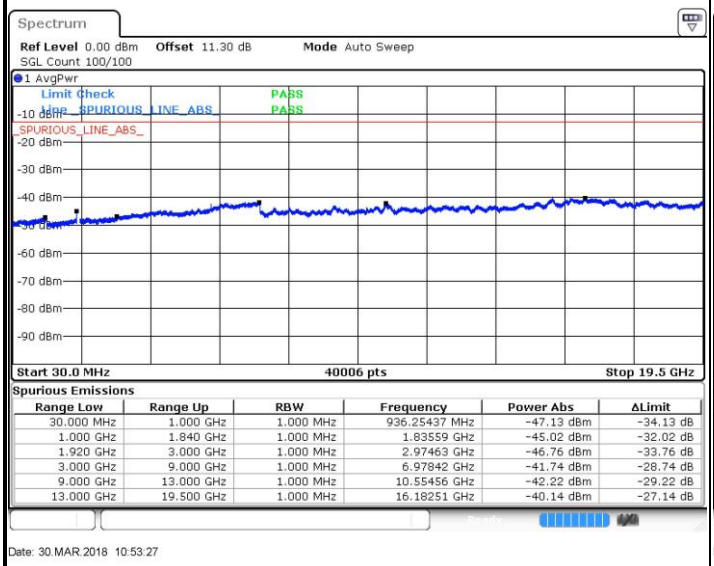
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	880.99200 MHz	-47.19 dBm	-34.19 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83349 GHz	-46.18 dBm	-33.18 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.93900 GHz	-46.72 dBm	-33.72 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99692 GHz	-41.63 dBm	-28.63 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.54856 GHz	-42.30 dBm	-29.30 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.25208 GHz	-40.15 dBm	-27.15 dB

Date: 30.MAR.2018 10:31:47

LTE Band 2 / 20MHz

Middle Channel / QPSK

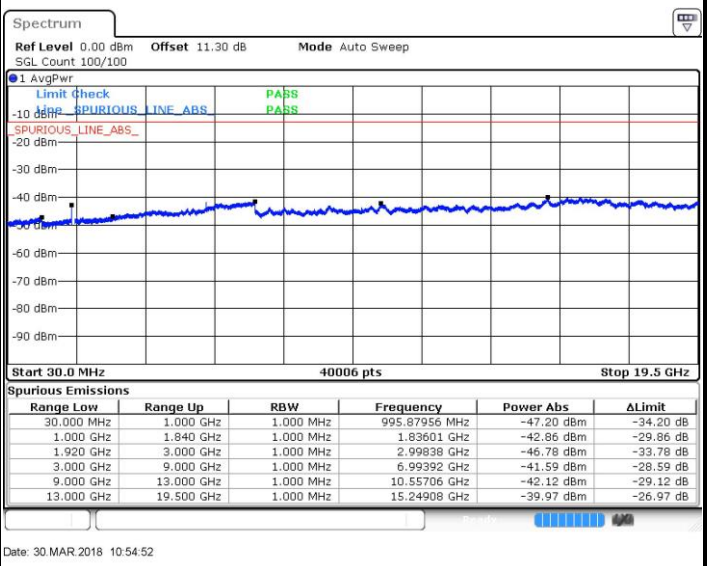


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	936.25437 MHz	-47.13 dBm	-34.13 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83559 GHz	-45.02 dBm	-32.02 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.97463 GHz	-46.76 dBm	-33.76 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.97842 GHz	-41.74 dBm	-28.74 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.55456 GHz	-42.22 dBm	-29.22 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.18251 GHz	-40.14 dBm	-27.14 dB

Date: 30.MAR.2018 10:53:27

Middle Channel / 16QAM

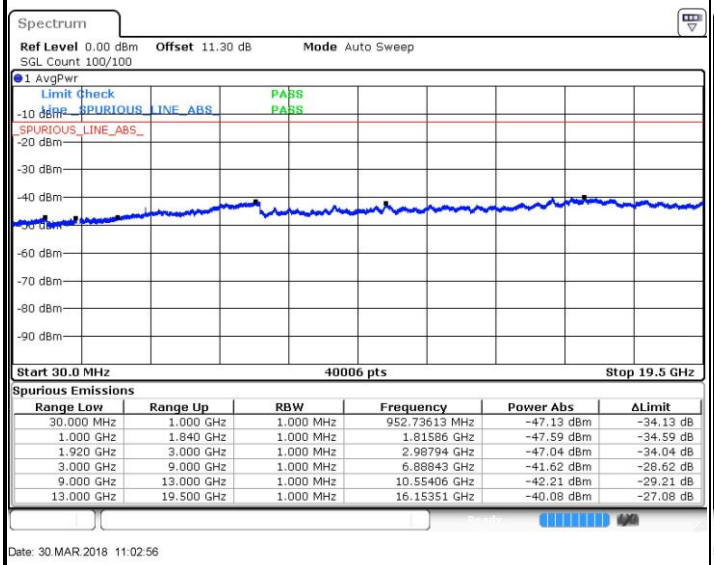


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	995.87956 MHz	-47.20 dBm	-34.20 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83601 GHz	-42.86 dBm	-29.86 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99838 GHz	-46.78 dBm	-33.78 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99392 GHz	-41.59 dBm	-28.59 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.55706 GHz	-42.12 dBm	-29.12 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.24908 GHz	-39.97 dBm	-26.97 dB

Date: 30.MAR.2018 10:54:52

Highest Channel / QPSK

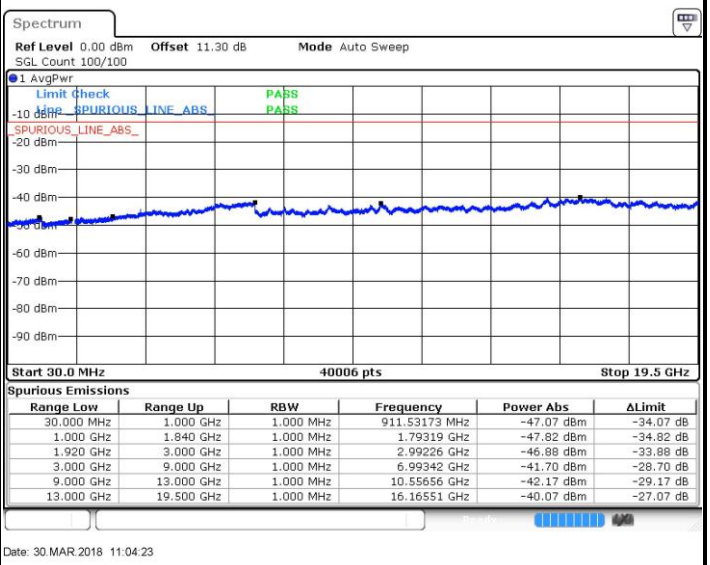


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	952.73613 MHz	-47.13 dBm	-34.13 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.81586 GHz	-47.59 dBm	-34.59 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.98794 GHz	-47.04 dBm	-34.04 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.88843 GHz	-41.62 dBm	-28.62 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.55406 GHz	-42.21 dBm	-29.21 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.15351 GHz	-40.08 dBm	-27.08 dB

Date: 30.MAR.2018 11:02:56

Highest Channel / 16QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	911.53173 MHz	-47.07 dBm	-34.07 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.79319 GHz	-47.82 dBm	-34.82 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99226 GHz	-46.88 dBm	-33.88 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99342 GHz	-41.70 dBm	-28.70 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.55656 GHz	-42.17 dBm	-29.17 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.16551 GHz	-40.07 dBm	-27.07 dB

Date: 30.MAR.2018 11:04:23

Frequency Stability

Test Conditions		LTE Band 2 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0014	PASS
40	Normal Voltage	0.0071	
30	Normal Voltage	0.0024	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0038	
0	Normal Voltage	0.0009	
-10	Normal Voltage	0.0010	
-20	Normal Voltage	0.0020	
-30	Normal Voltage	0.0016	
20	Maximum Voltage	0.0003	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0025	

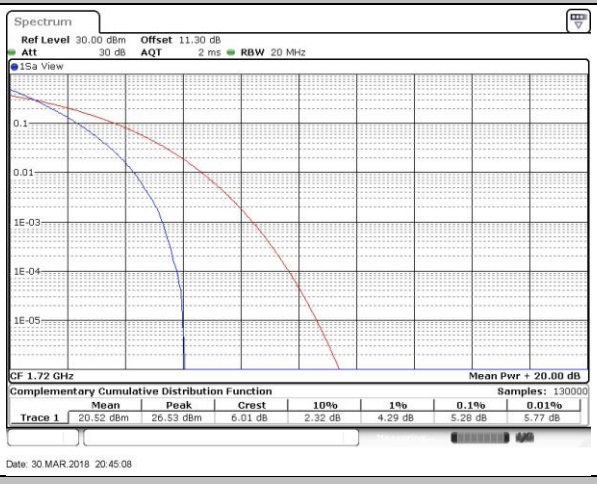
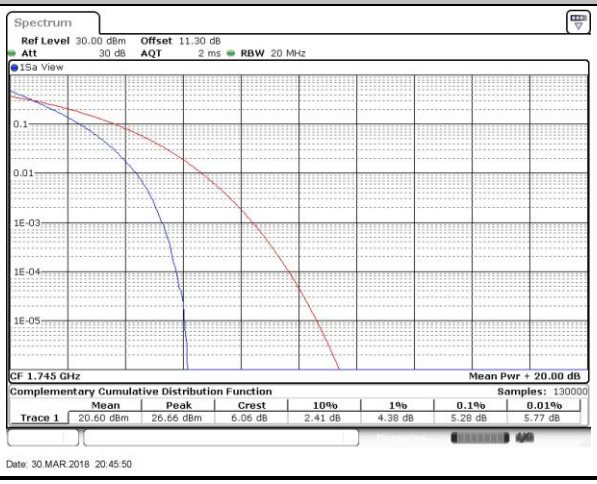
Note:

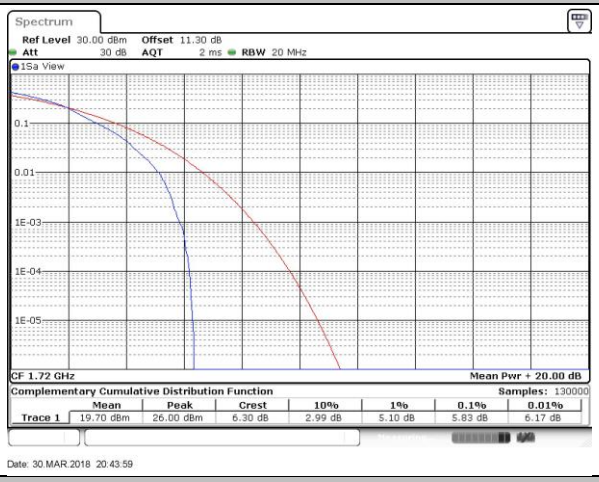
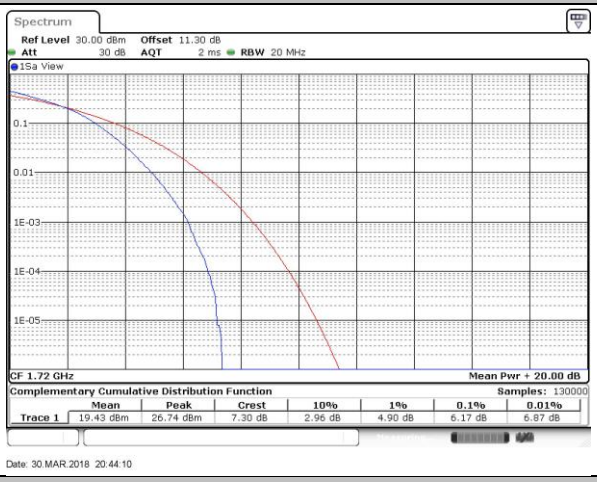
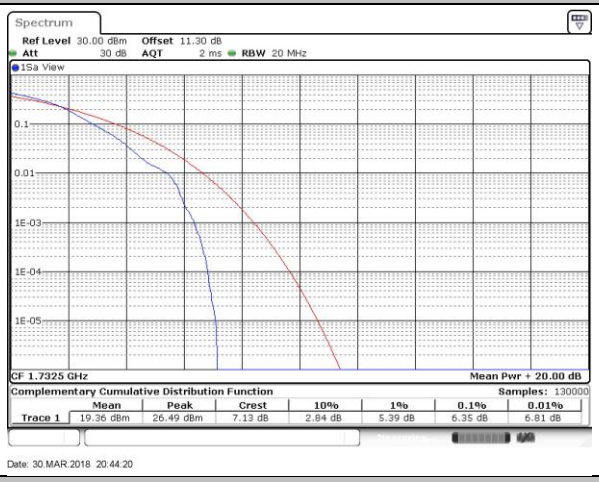
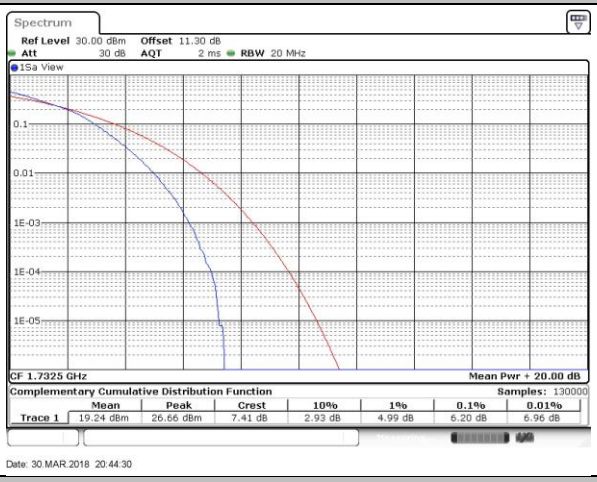
1. Normal Voltage =3.7 V.；Battery End Point (BEP) =3.4 V.；Maximum Voltage =4.2 V.
2. The frequency fundamental emissions stay within the authorized frequency block.

LTE Band 4

Peak-to-Average Ratio

Mode	LTE Band 4 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	5.22	5.28	5.83	6.17	PASS
Middle CH	5.33	5.25	6.35	6.2	
Highest CH	5.22	5.28	5.86	6.12	

LTE Band 4 / 20MHz / QPSK	
Lowest Channel / 1RB	**Lowest Channel / Full RB**
	
Middle Channel / 1RB	**Middle Channel / Full RB**
Highest Channel / 1RB	**Highest Channel / Full RB**
	

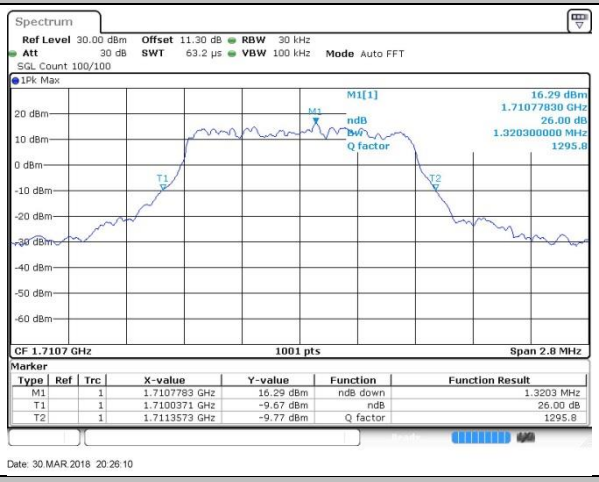
LTE Band 4 / 20MHz / 16QAM	
Lowest Channel / 1RB	**Lowest Channel / Full RB**
	
Middle Channel / 1RB	**Middle Channel / Full RB**
	
Highest Channel / 1RB	**Highest Channel / Full RB**

26dB Bandwidth

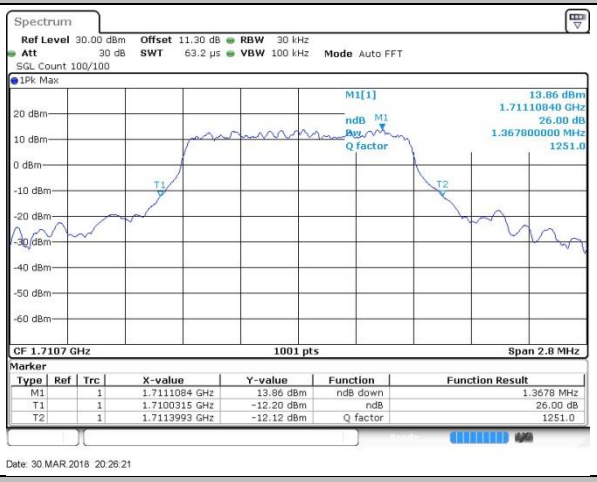
Mode	LTE Band 4 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.32	1.37	3.05	3.01	5.00	4.89	10.03	9.91	15.41	14.93	20.50	20.14
Middle CH	1.32	1.31	3.03	3.03	4.94	4.96	10.13	9.85	15.05	14.84	20.94	20.18
Highest CH	1.32	1.33	3.12	3.05	5.01	4.88	9.87	9.87	15.14	14.45	20.18	20.14

LTE Band 4

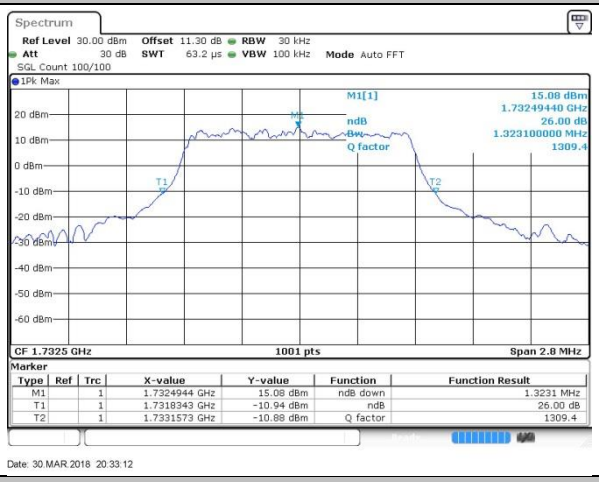
Lowest Channel / 1.4MHz / QPSK



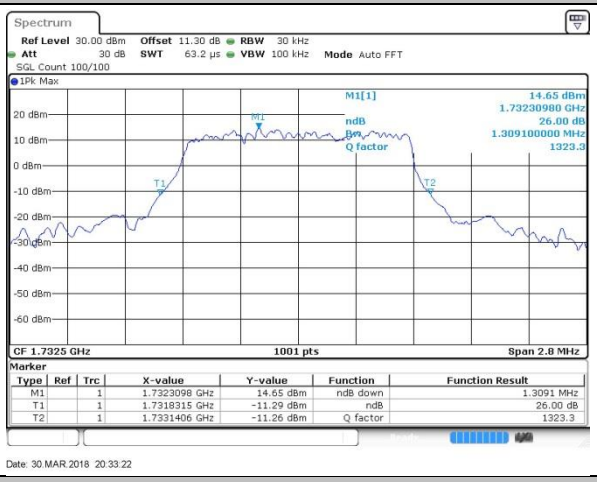
Lowest Channel / 1.4MHz / 16QAM



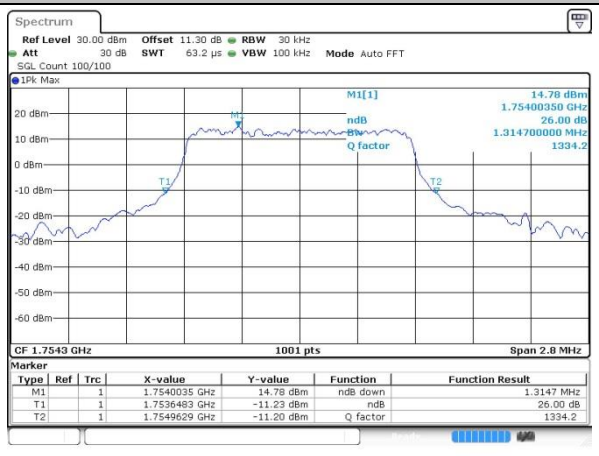
Middle Channel / 1.4MHz / QPSK



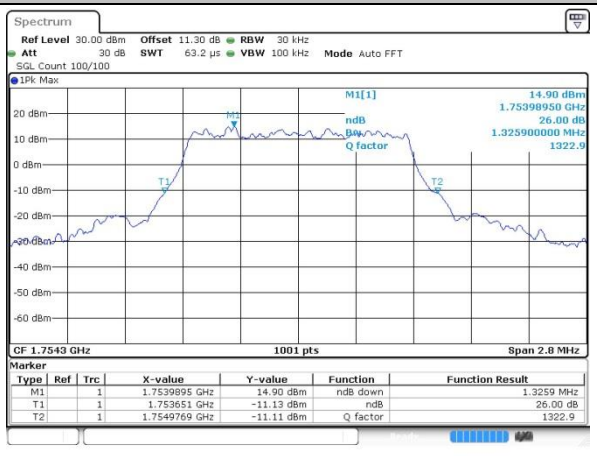
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

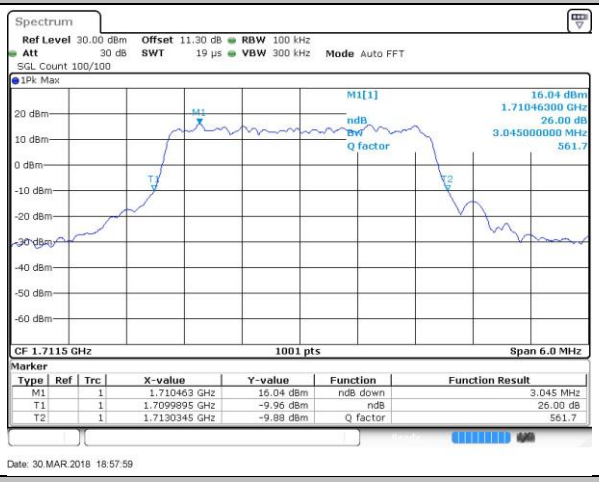


Highest Channel / 1.4MHz / 16QAM

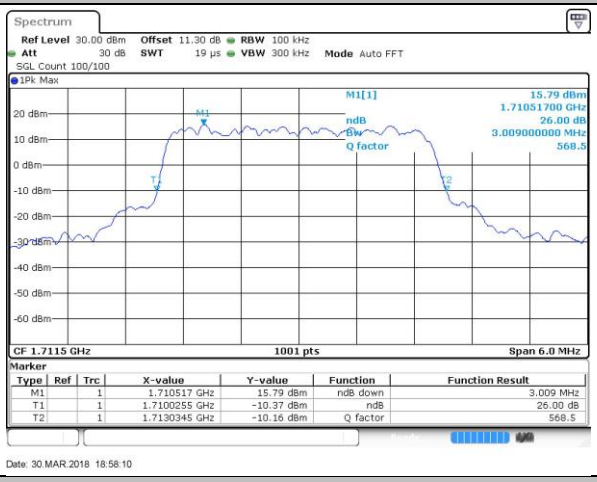


LTE Band 4

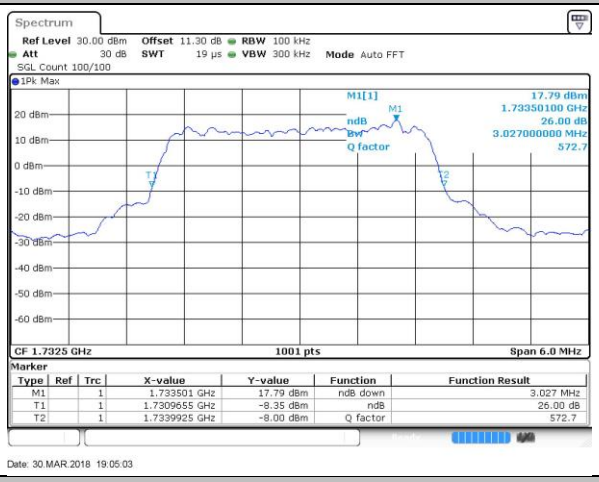
Lowest Channel / 3MHz / QPSK



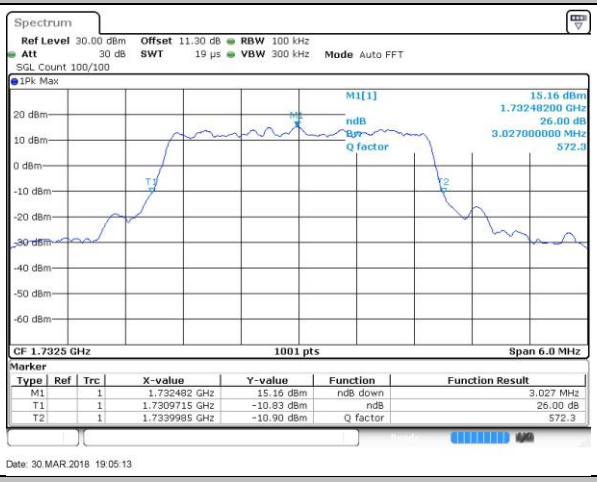
Lowest Channel / 3MHz / 16QAM



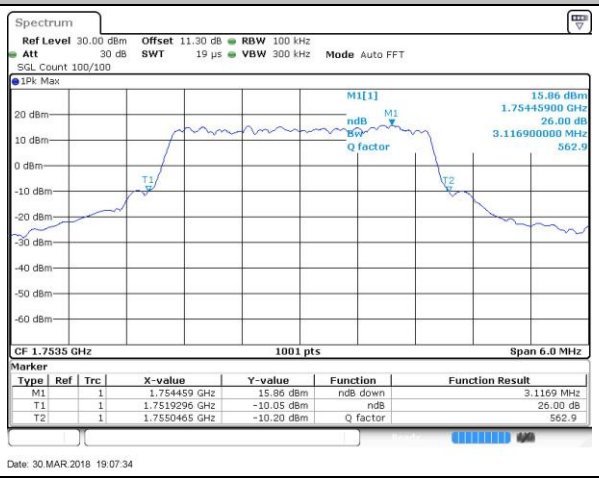
Middle Channel / 3MHz / QPSK



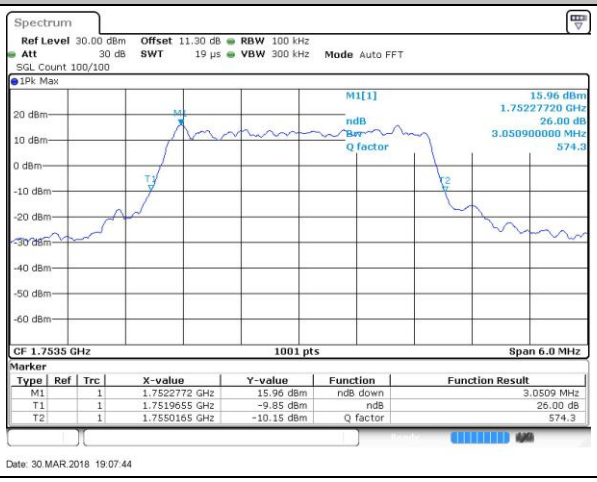
Middle Channel /3MHz / 16QAM



Highest Channel /3MHz / QPSK

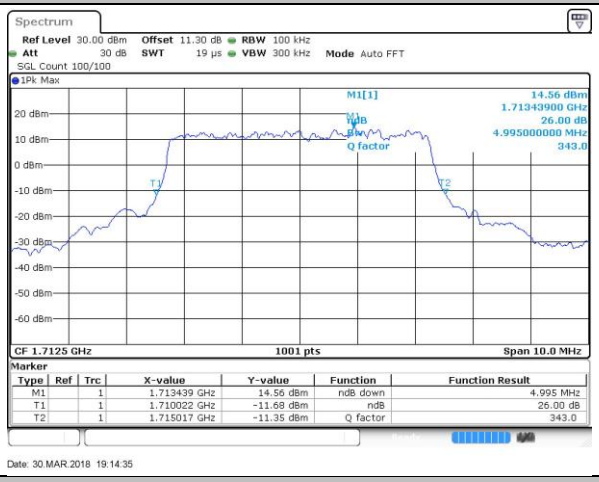


Highest Channel /3MHz / 16QAM

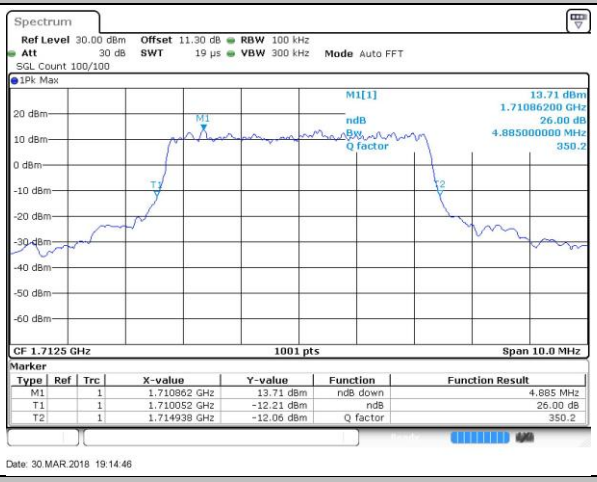


LTE Band 4

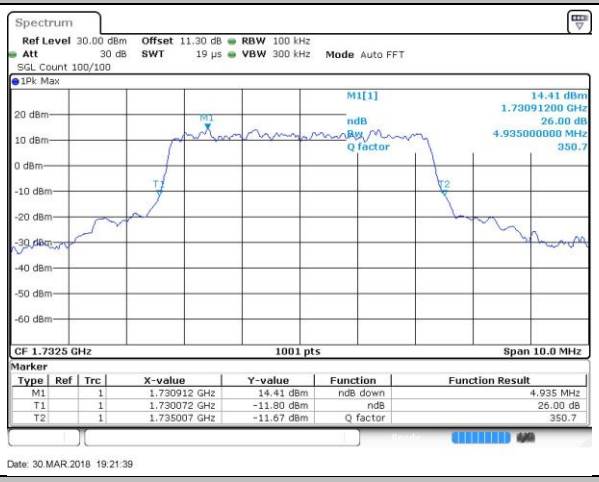
Lowest Channel / 5MHz / QPSK



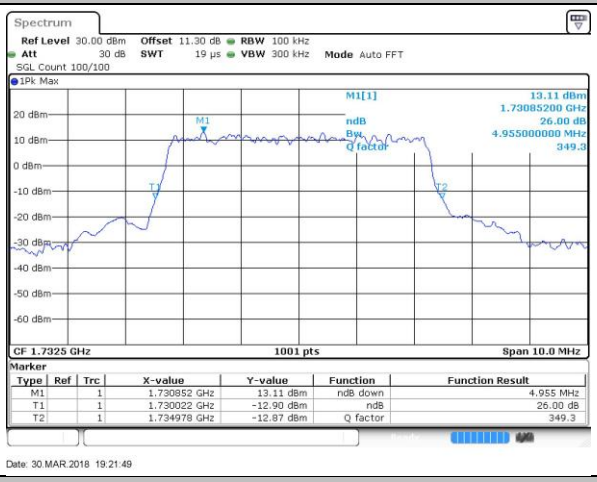
Lowest Channel / 5MHz / 16QAM



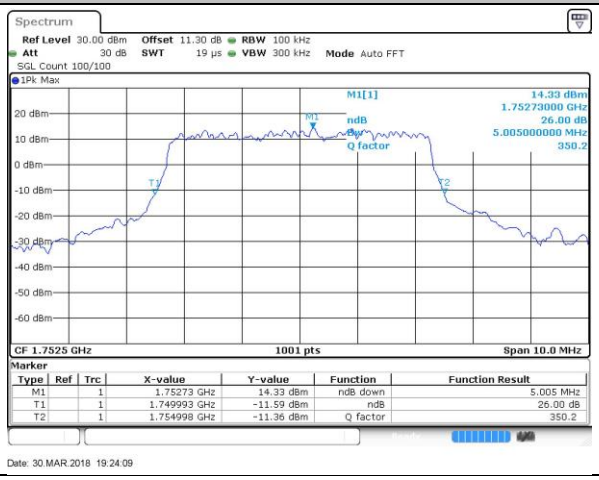
Middle Channel / 5MHz / QPSK



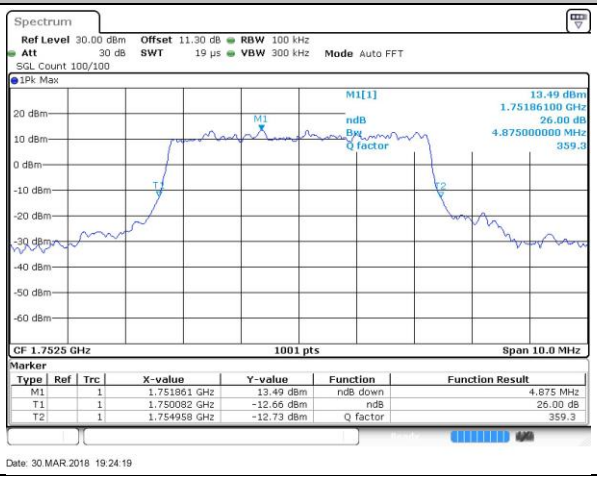
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

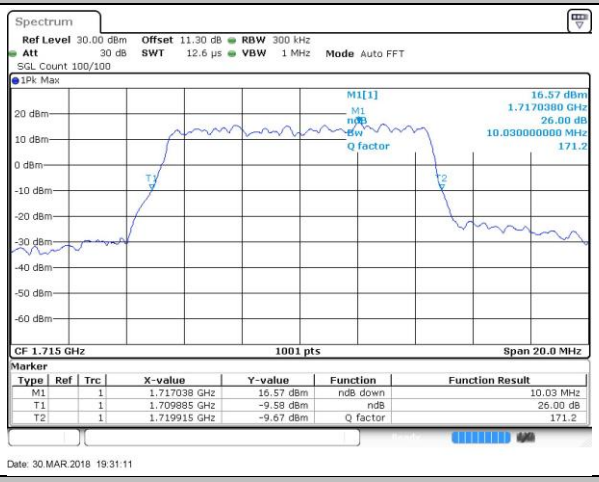


Highest Channel / 5MHz / 16QAM

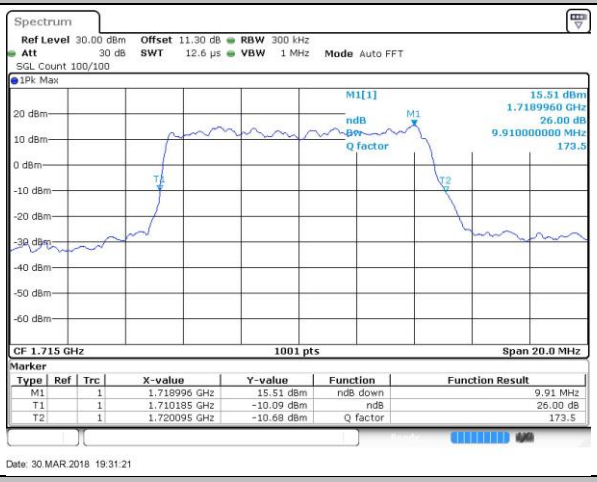


LTE Band 4

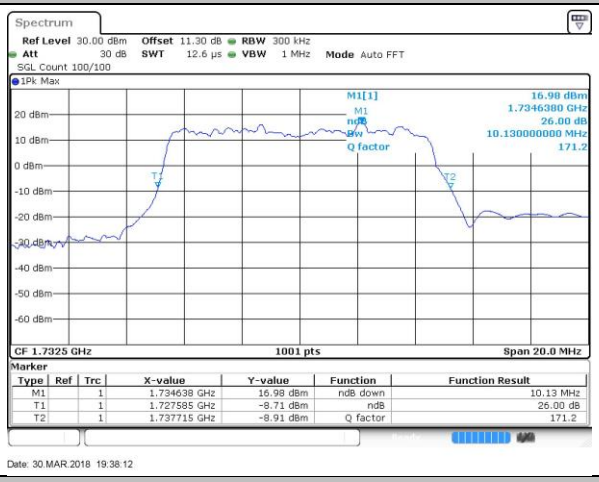
Lowest Channel / 10MHz / QPSK



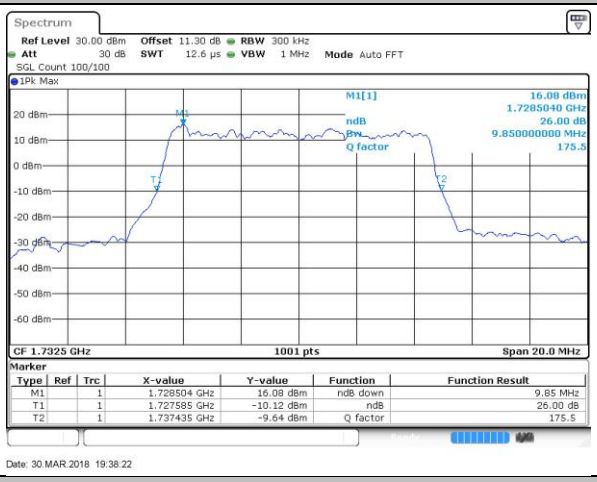
Lowest Channel / 10MHz / 16QAM



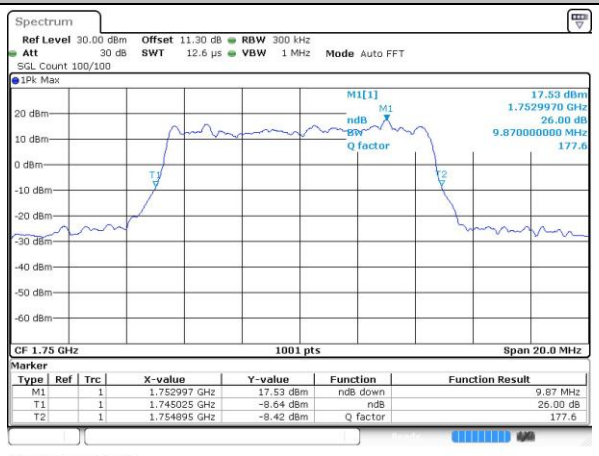
Middle Channel / 10MHz / QPSK



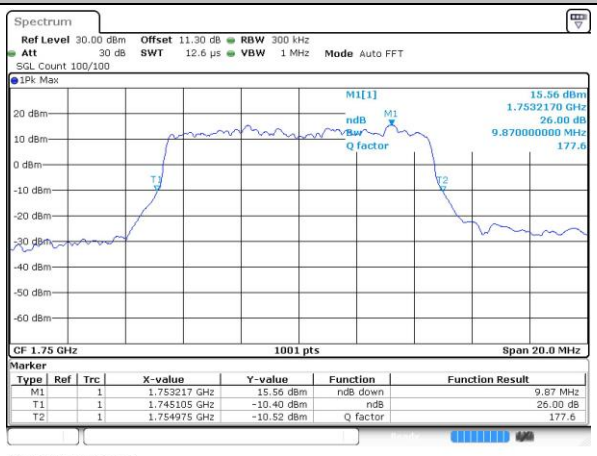
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

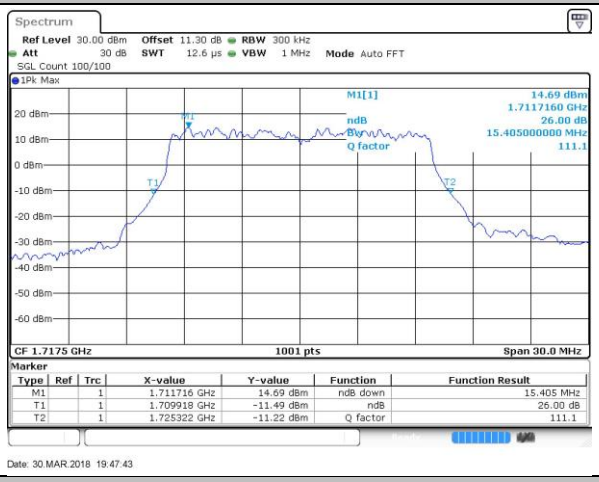


Highest Channel / 10MHz / 16QAM

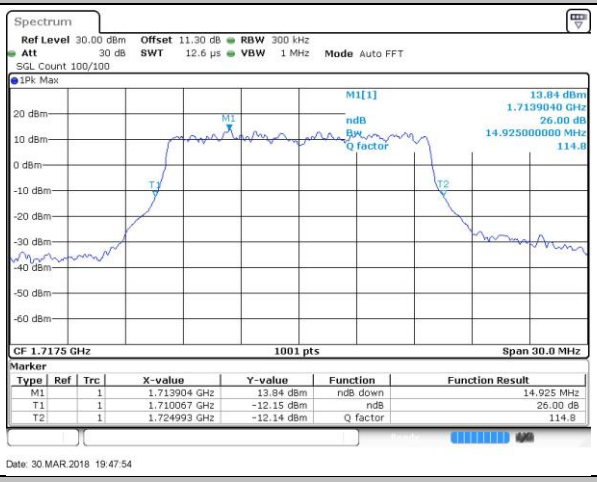


LTE Band 4

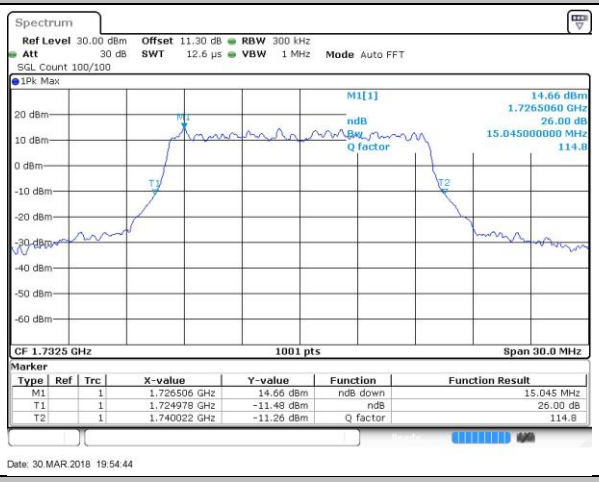
Lowest Channel / 15MHz / QPSK



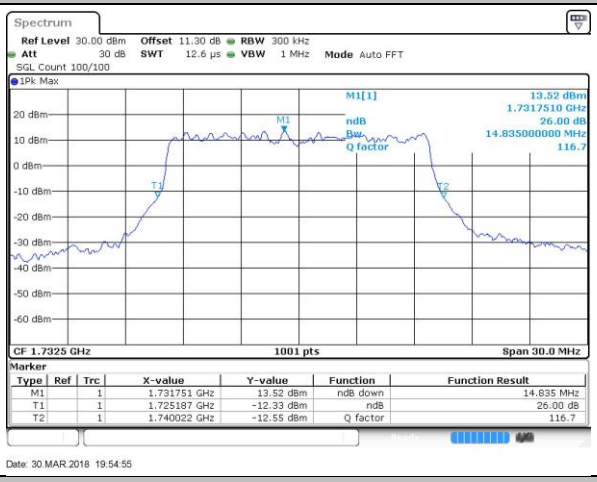
Lowest Channel / 15MHz / 16QAM



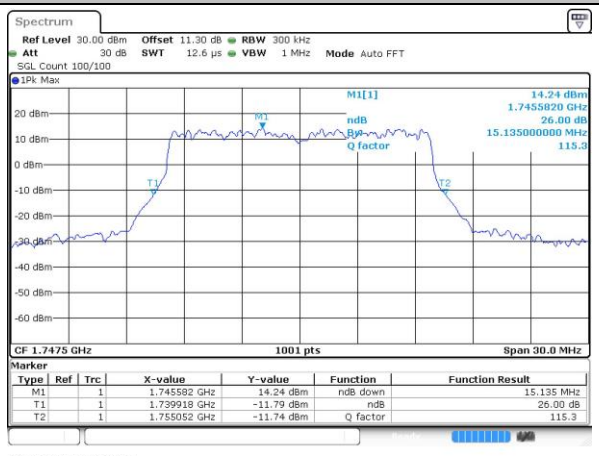
Middle Channel / 15MHz / QPSK



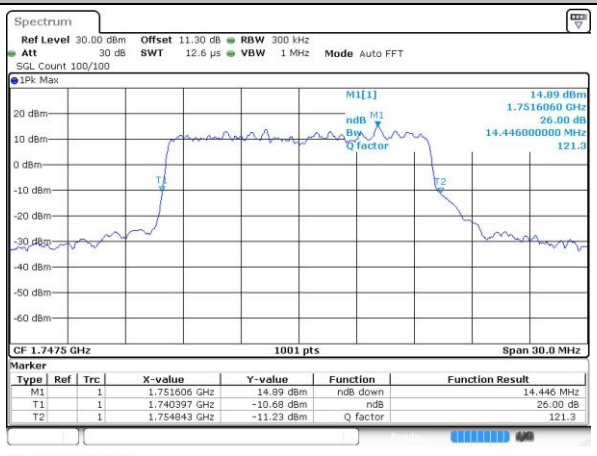
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK

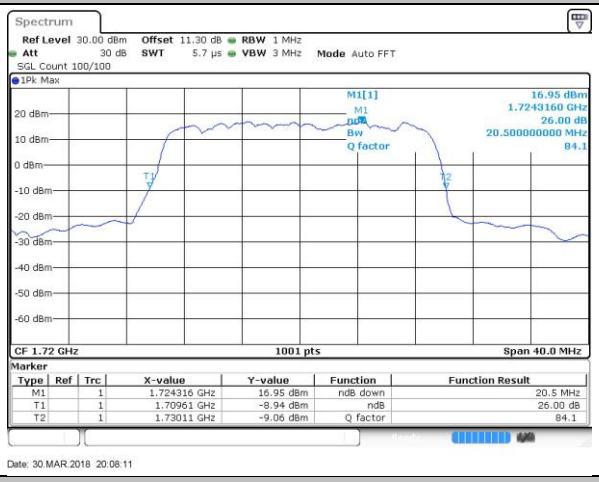


Highest Channel / 15MHz / 16QAM

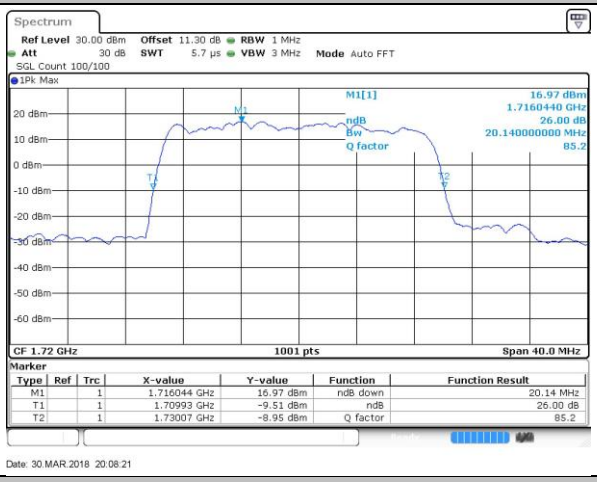


LTE Band 4

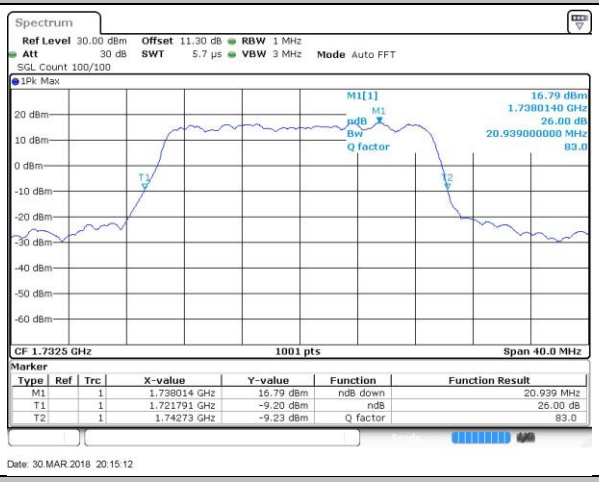
Lowest Channel / 20MHz / QPSK



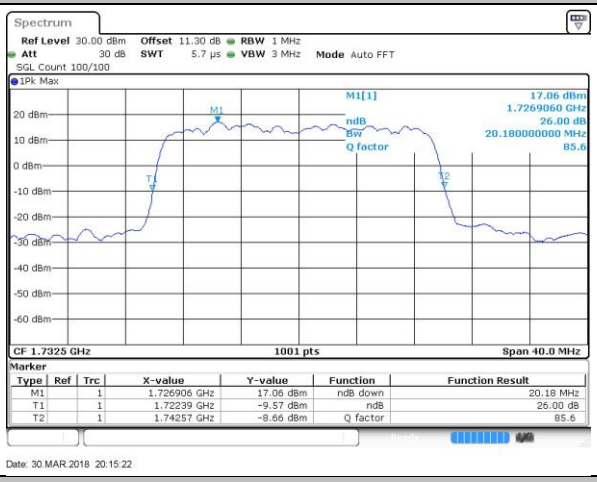
Lowest Channel / 20MHz / 16QAM



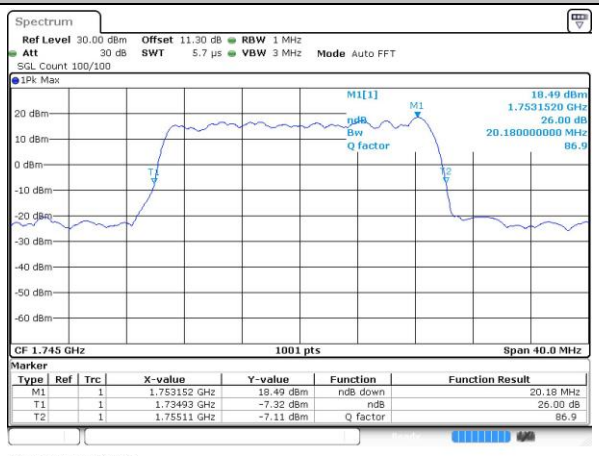
Middle Channel / 20MHz / QPSK



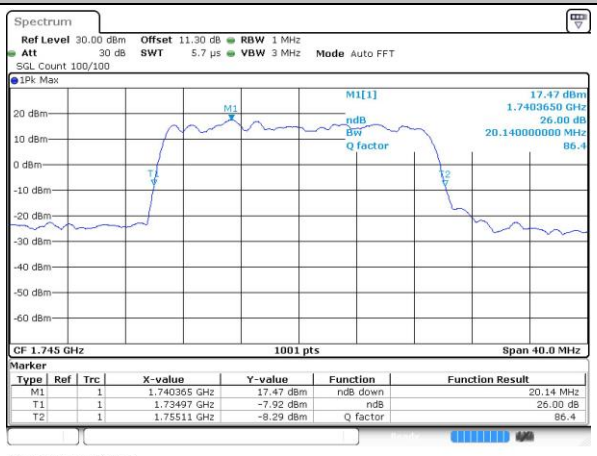
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



Highest Channel / 20MHz / 16QAM

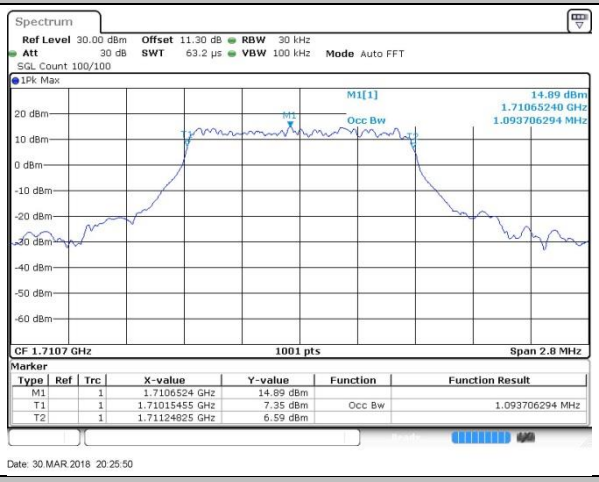


Occupied Bandwidth

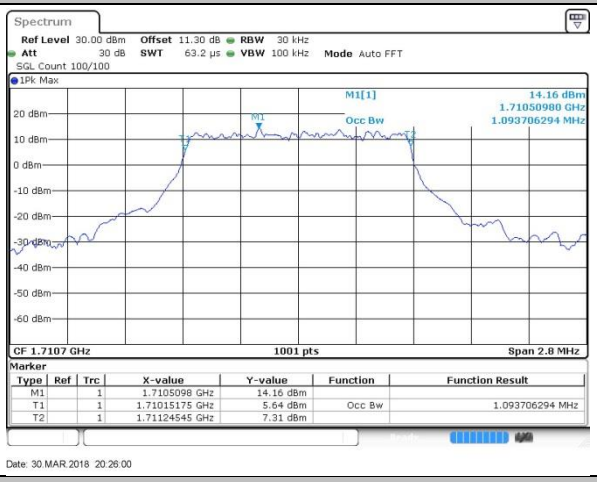
Mode	LTE Band 4 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.09	1.09	2.72	2.7	4.49	4.49	9.09	8.99	13.52	13.49	18.18	18.26
Middle CH	1.11	1.09	2.72	2.71	4.5	4.51	9.11	9.05	13.46	13.55	18.46	18.54
Highest CH	1.1	1.09	2.72	2.72	4.49	4.46	9.09	9.05	13.49	13.43	18.38	18.46

LTE Band 4

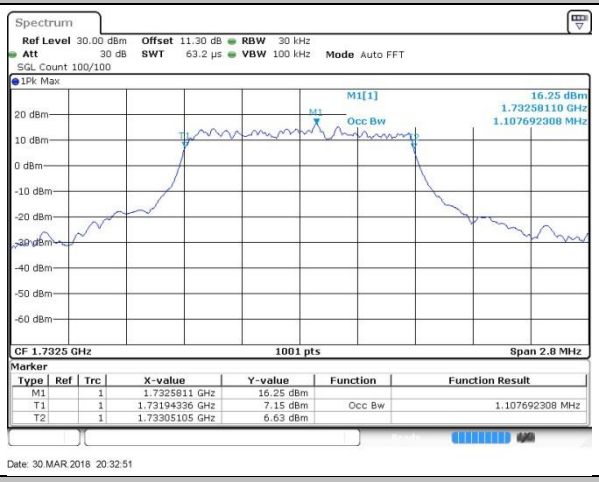
Lowest Channel / 1.4MHz / QPSK



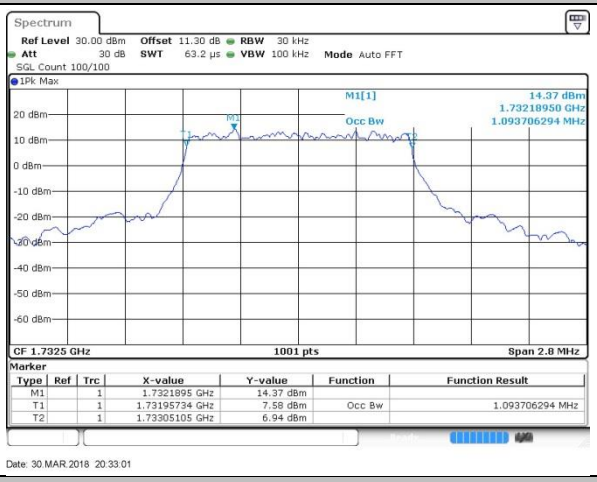
Lowest Channel / 1.4MHz / 16QAM



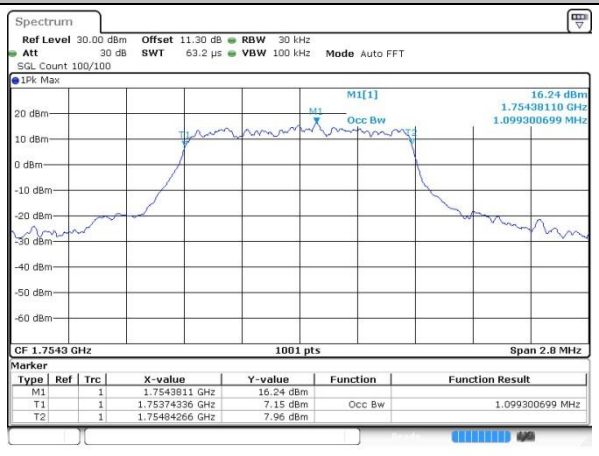
Middle Channel / 1.4MHz / QPSK



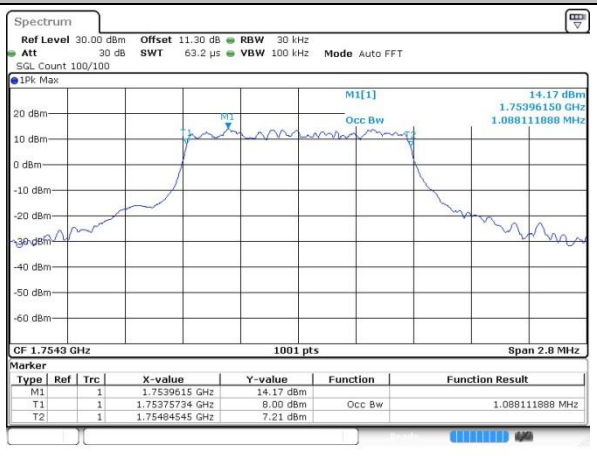
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

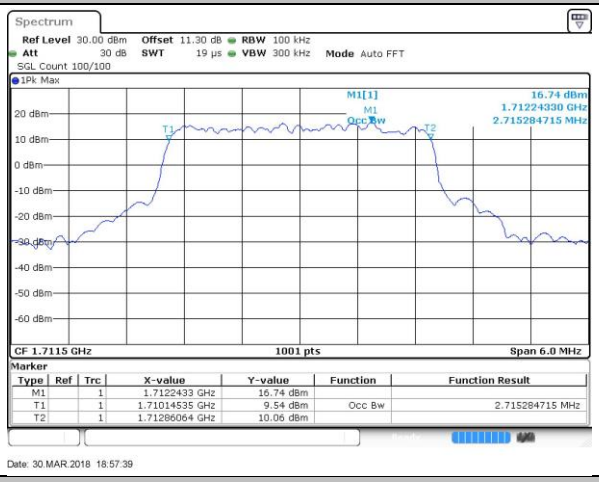


Highest Channel / 1.4MHz / 16QAM

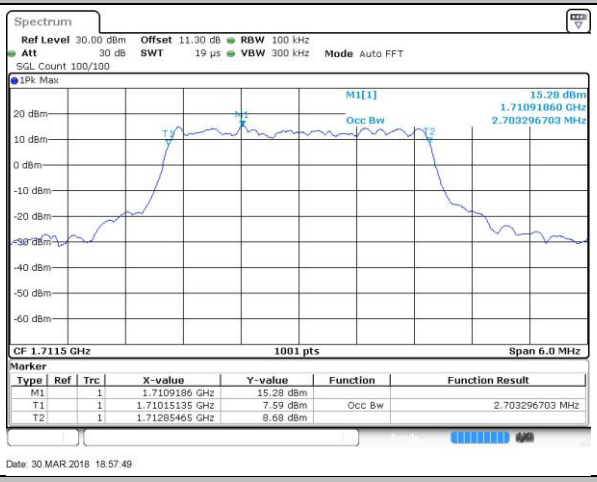


LTE Band 4

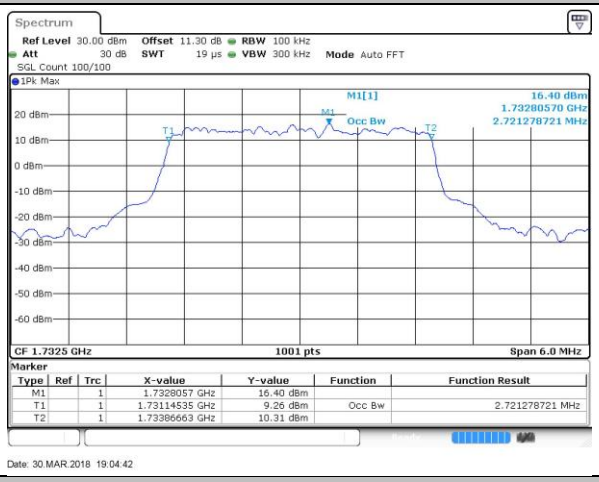
Lowest Channel / 3MHz / QPSK



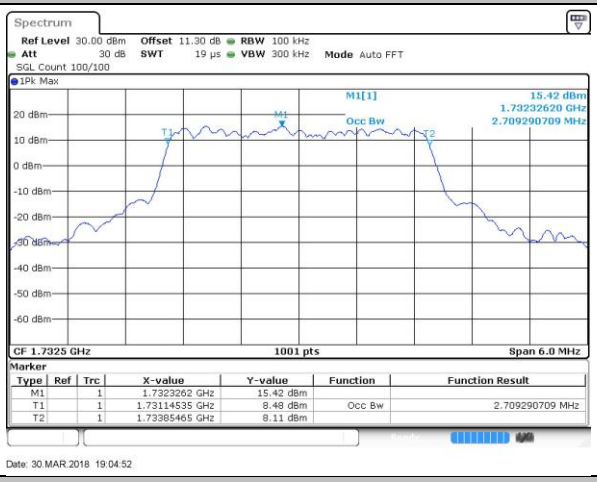
Lowest Channel / 3MHz / 16QAM



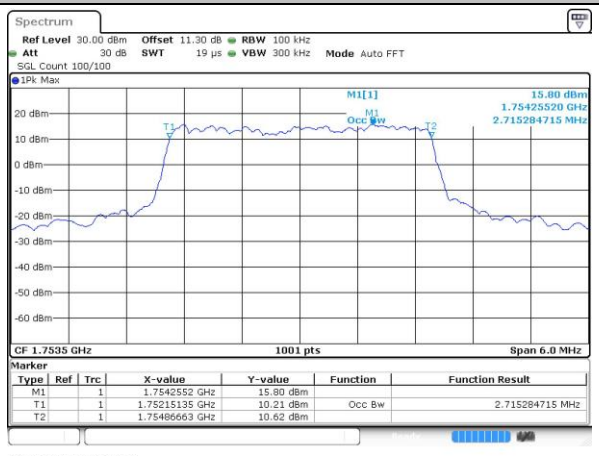
Middle Channel / 3MHz / QPSK



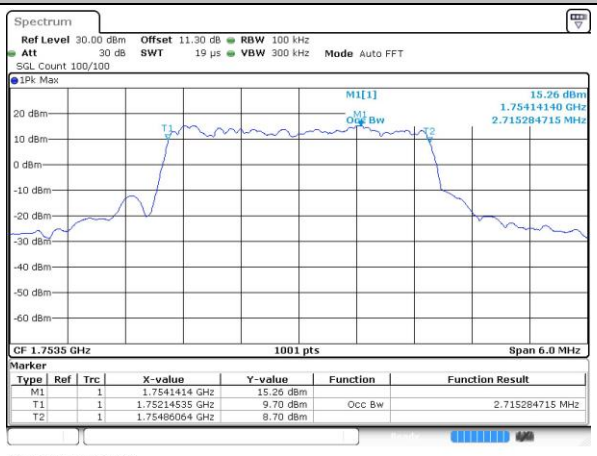
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK

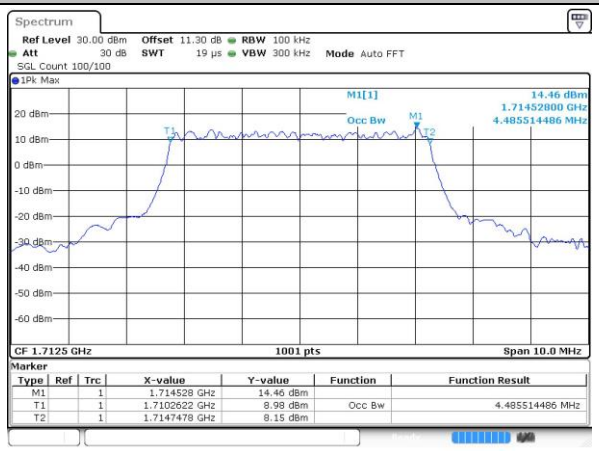


Highest Channel / 3MHz / 16QAM

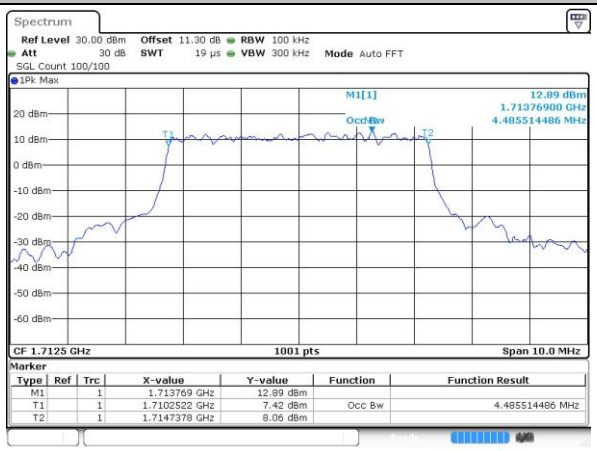


LTE Band 4

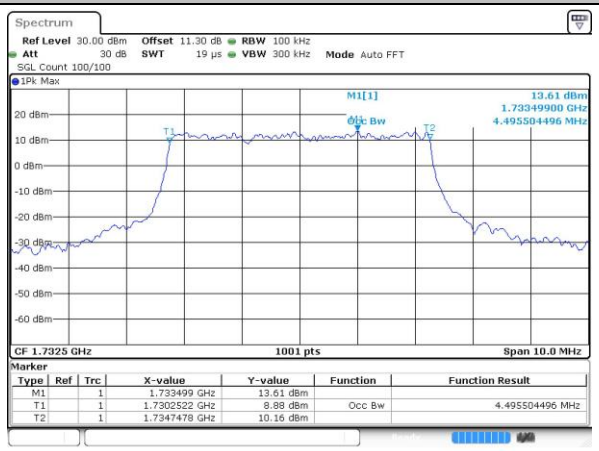
Lowest Channel / 5MHz / QPSK



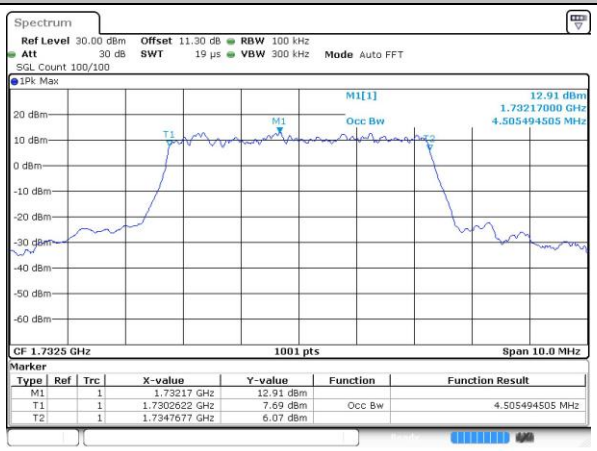
Lowest Channel / 5MHz / 16QAM



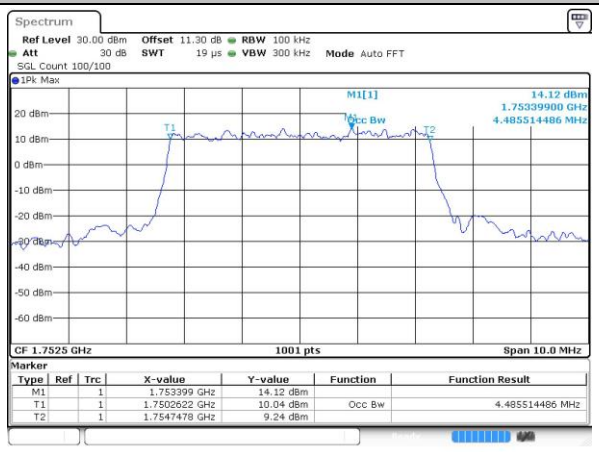
Middle Channel / 5MHz / QPSK



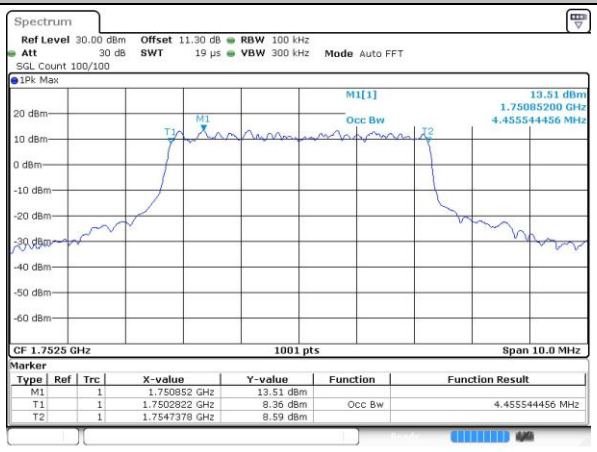
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

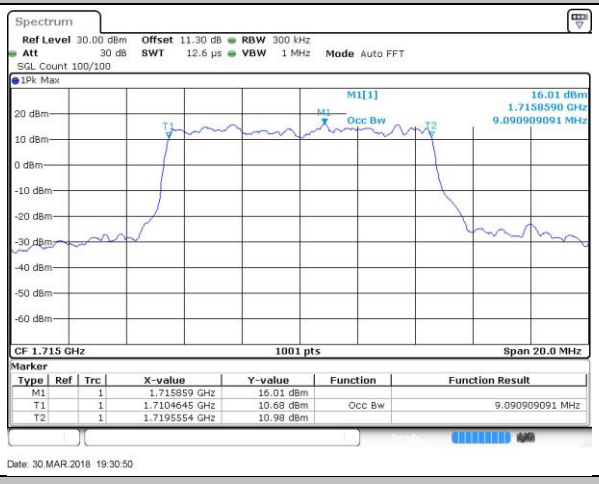


Highest Channel / 5MHz / 16QAM

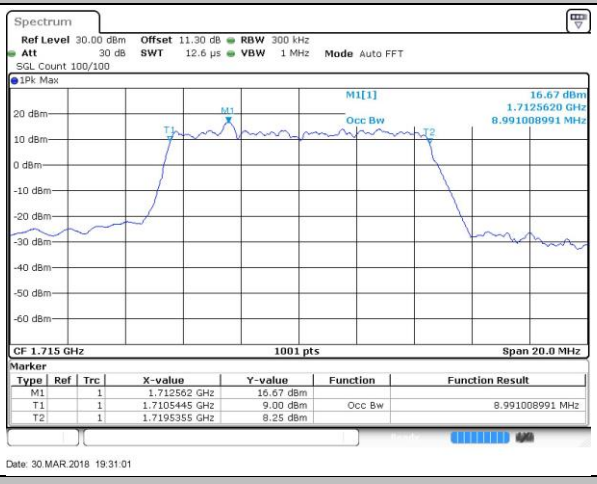


LTE Band 4

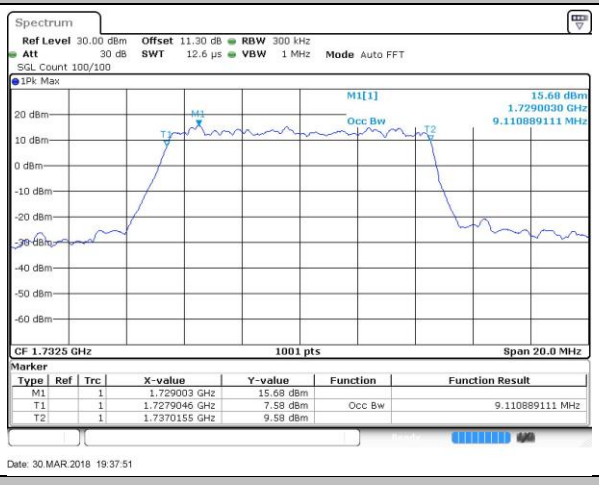
Lowest Channel / 10MHz / QPSK



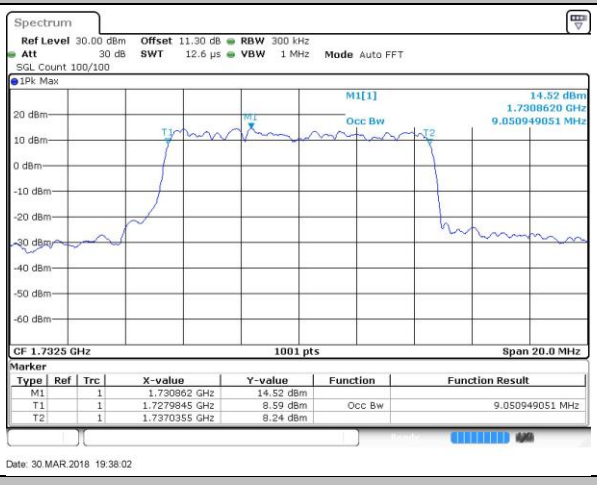
Lowest Channel / 10MHz / 16QAM



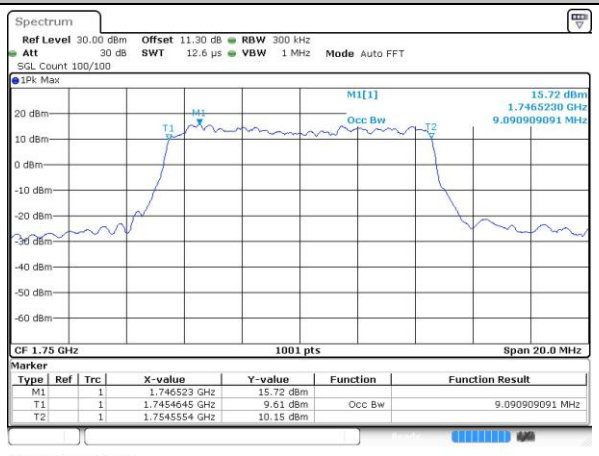
Middle Channel / 10MHz / QPSK



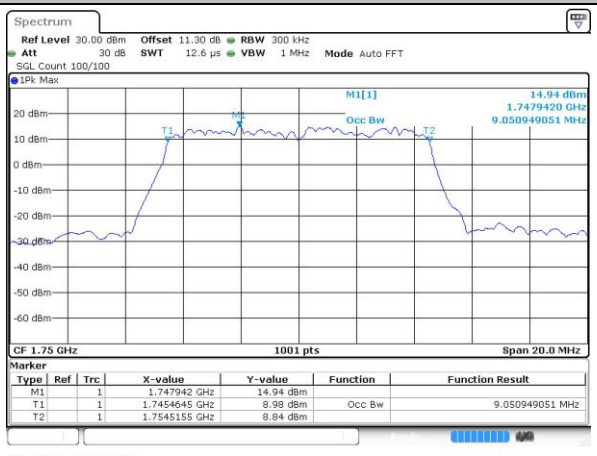
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

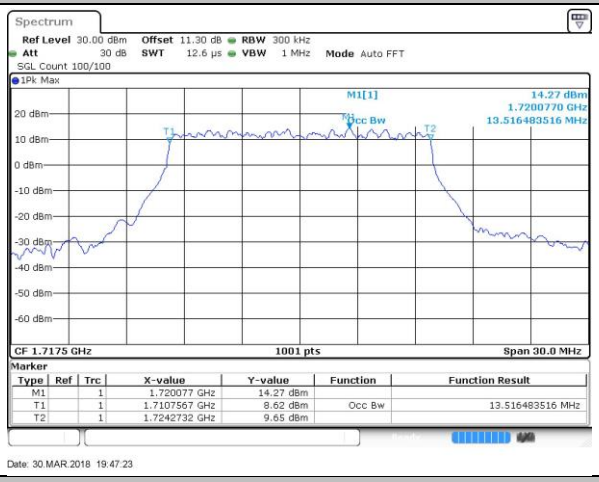


Highest Channel / 10MHz / 16QAM

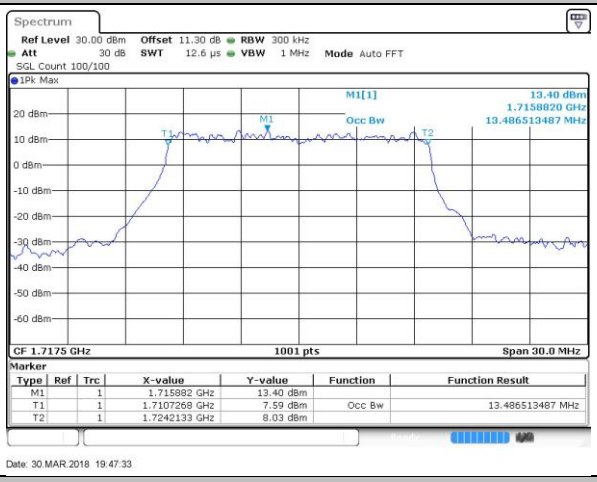


LTE Band 4

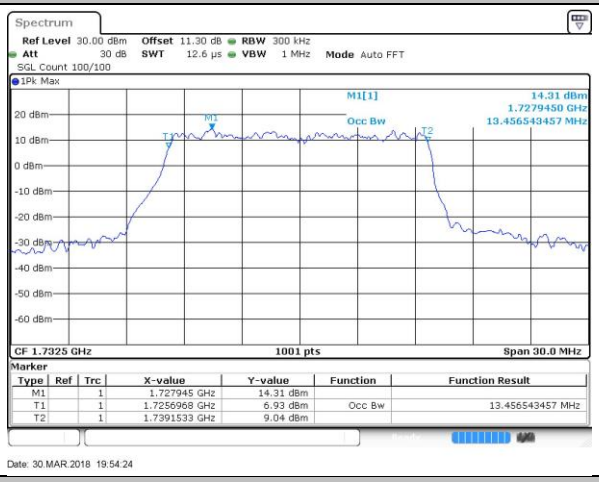
Lowest Channel / 15MHz / QPSK



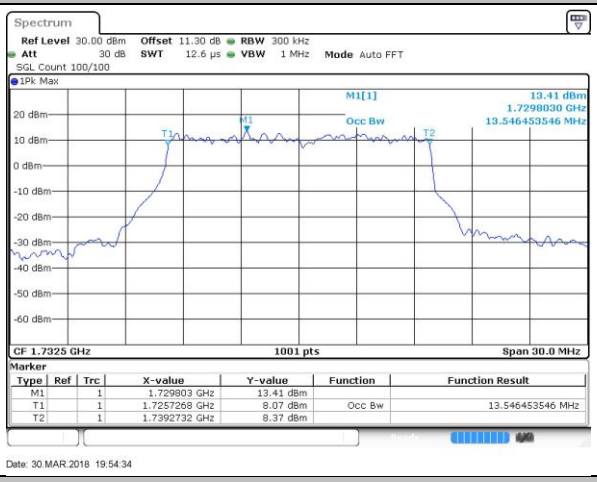
Lowest Channel / 15MHz / 16QAM



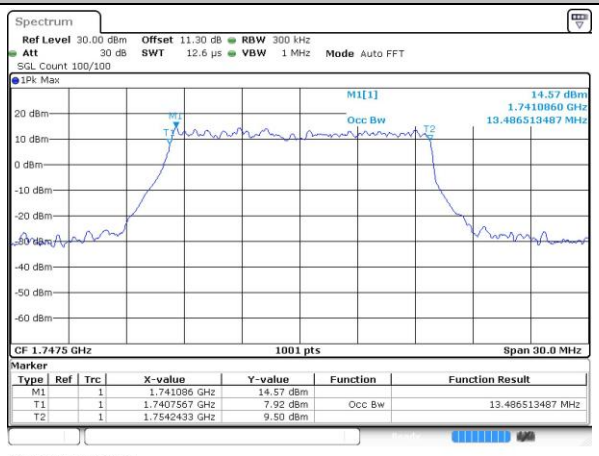
Middle Channel / 15MHz / QPSK



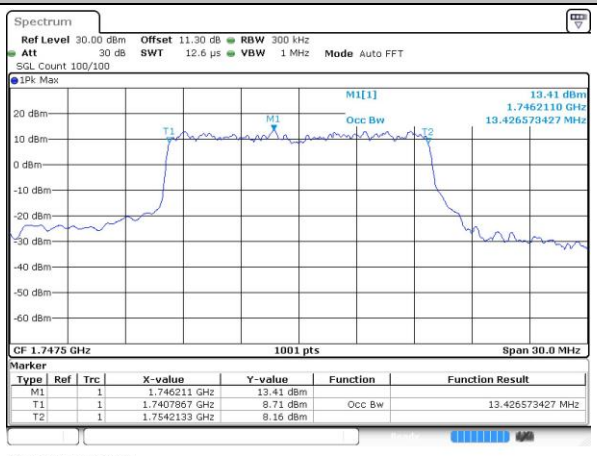
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK

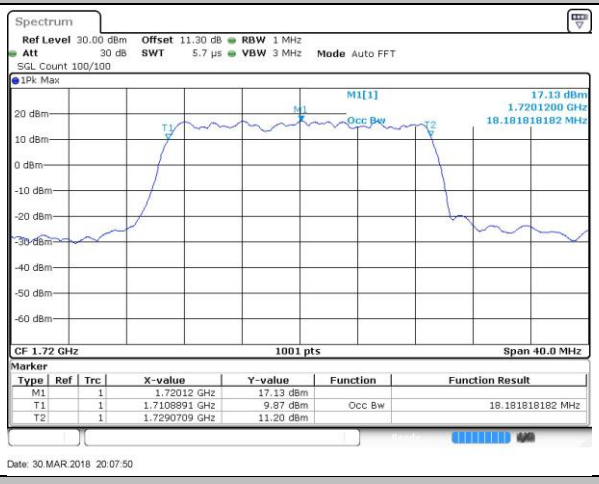


Highest Channel / 15MHz / 16QAM

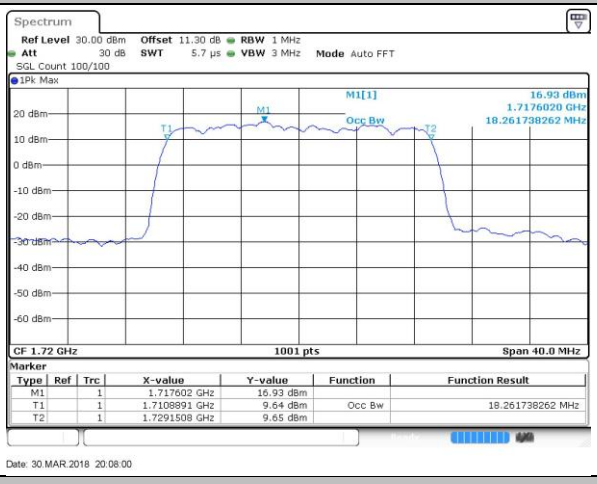


LTE Band 4

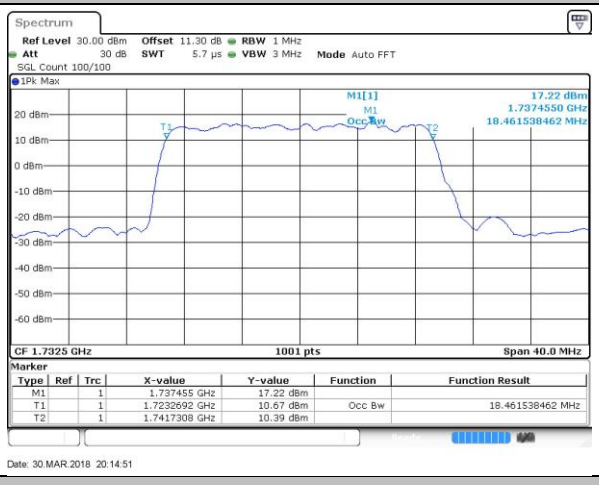
Lowest Channel / 20MHz / QPSK



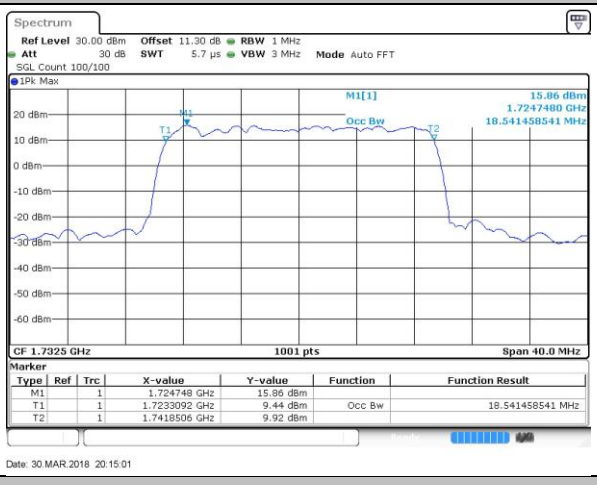
Lowest Channel / 20MHz / 16QAM



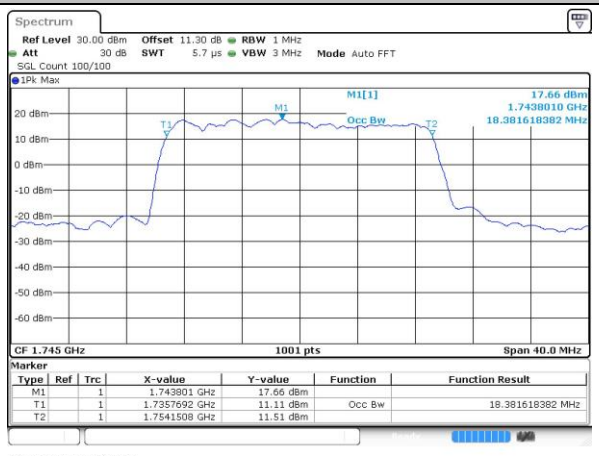
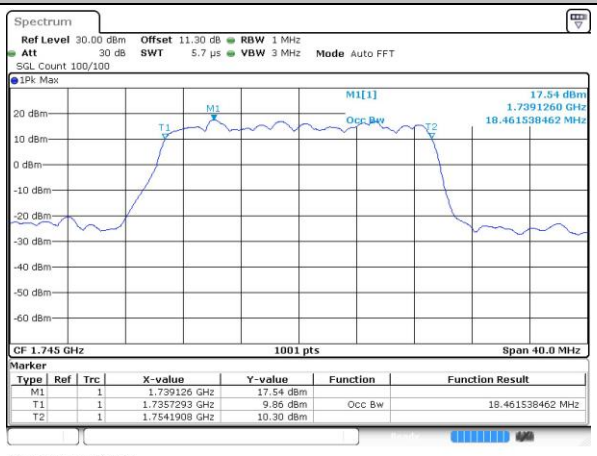
Middle Channel / 20MHz / QPSK



Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



Highest Channel / 20MHz / 16QAM